

Serial No. 10/091,912

Page 4

LIST OF CLAIMS, SHOWING THE STATUS OF EACH CLAIM

Underlining denotes added text while strikethrough denotes deleted text.

IN THE CLAIMS:

1. (Currently Amended) A cutinase variant comprising substitution of substituting one or more amino acids at residue positions corresponding to sites 180, 178 and ~~205~~194 and 192, of *Pseudomonas mendocina* cutinase SEQ ID NO: 2, and homologous cutinases thereof, and wherein said variant has polyesterase activity.
2. (Currently Amended) The cutinase of claim 1 derived isolated from *Pseudomonas mendocina*.
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Currently Amended) The cutinase of claim 1, wherein said variant has enhanced thermostability in comparison with wild-type *P. mendocina* cutinase stability.
10. (Cancelled)
11. (Cancelled)

Serial No. 10/091,912

Page 5

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Currently Amended) The cutinase of claim 1, wherein said variant comprises the following substitutions: Ile 178 192 with Met; Phe 180 194 with Val; and Ser 205 219 with Gly, wherein said variant has enhanced polyesterase activity, in comparison with wild-type *P. mendocina* cutinase.

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Cancelled)

Serial No. 10/091,912

Page 6

27. (Currently Amended) The cutinase of claim 1, wherein said variant includes the substitution of Phe 180 194 with one of Ile, Leu, Asn, ~~and or~~ Pro, wherein said variant has enhanced stability, in comparison with wild-type *P. mendocina* cutinase.

28. (Currently Amended) A cutinase variant comprising substituting substitution of one or more amino acids at residue positions corresponding to sites 180, 178 and 205 194 and 192, of *Pseudomonas mendocina* cutinase SEQ ID NO: 2, ~~and homologous cutinases thereof~~, and wherein said variant is thermostable and has hydrolytic activity on polyester.

29. (Currently Amended) The cutinase variant of claim 28 derived isolated from *Pseudomonas* species.

30. (New) The cutinase of claim 28, wherein said variant further comprises a substitution of the amino acid residue at position 219 of *Pseudomonas mendocina* cutinase SEQ ID NO: 2.

31. (New) The cutinase of claim 1, wherein said variant further comprises a substitution of the amino acid residue at position 219 of *Pseudomonas mendocina* cutinase SEQ ID NO: 2.

32. (New) The cutinase of claim 31, wherein said variant has enhanced thermostability in comparison with wild-type *P. mendocina* cutinase.

33. (New) The cutinase of claim 30, wherein Phe 194 is substituted with one of Ala, His, Lys, Leu, Asn, Pro or Gly, and said Ser 219 is substituted with Gly.

34. (New) The cutinase of claim 1, wherein said variant includes the substitution of Phe 194 with one of Ala or His, and a substitution of Ser 219 with Gly, wherein said variant has enhanced polyesterase activity in comparison with wild-type *P. mendocina* cutinase.

35. (New) The cutinase of claim 1, wherein said variant includes the substitution of Phe 194 with Ile, wherein said variant has enhanced polyesterase activity in comparison with wild-type *P. mendocina* cutinase.

Serial No. 10/091,912

Page 7

36. (New) The cutinase of claim 1, wherein said variant includes the substitution of Phe 194 with one of Lys or Leu and substitution of Ser 219 with Gly wherein said variant has enhanced polyesterase activity in comparison with wild-type *P. mendocina* cutinase.

37. (New) The cutinase of claim 1, wherein said variant includes the substitution of Phe 194 with Asn, wherein said variant has enhanced polyesterase activity in comparison with wild-type *P. mendocina* cutinase.

38. (New) The cutinase of claim 1, wherein said variant includes the substitution of Phe 194 with one of Asn, Pro, or Ser, and substitution of Ser 219 with Gly, wherein said variant has enhanced polyesterase activity in comparison with wild-type *P. mendocina* cutinase.